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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,877	03/26/2004	Malford E. Cullum	NC 84,641	7806

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NAVAL MEDICAL RESEARCH CENTER  
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EXAMINER
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GRASER, JENNIFER E

ART UNIT	PAPER NUMBER
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1645

MAIL DATE	DELIVERY MODE
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06/27/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/809,877

Applicant(s)

CULLUM ET AL.

Examiner

Jennifer E. Graser

Art Unit

1645

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-28 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                      | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

### **DETAILED ACTION**

**Note:** Applicants' amendment to the claims necessitated the following new  
Restriction Requirement:

#### ***Election/Restrictions***

Claims 1-28 are pending.

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-15 and 28, drawn to a method of detecting a *Bacillus anthracis* protein in a competitive immunoassay format, classified in class 435, subclass 9.3.
- II. Claims 16-27, drawn to a method of detecting antibodies with a fluorochrome labeled reagent that directly binds to the antibody, classified in class 435, subclass 7.1.

The inventions are distinct, each from the other because of the following reasons:

Inventions Group I and Group II are directed to related to determining the presence of a protein with a competitive assay and determining the presence of an antibody with a fluorochrome labeled binding reagent, respectively. The related inventions are distinct if the (1) the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect; (2) the inventions do not overlap in scope, i.e., are mutually exclusive; and (3) the inventions as claimed are not obvious variants. See MPEP §806.05fj). In the instant case, the inventions as claimed the method of Group II has a materially different design by only adding a single reagent to sample while the method of Group I adds two

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reagents to the sample which results in determining the presence or absence of different products in the sample, specifically the mode of operation in Group I is clearly competitive and the mode of operation is between a labeled reagent and the antibody in the sample, no competition between components is required as now claimed, therefore, the methods of each group function differently and effectively determine the presence of structurally different products in the sample, one product being a protein of *Bacillus anthracis* and the other being an antibody that binds to an antigen of the pathogen; (2) the inventions do not overlap in scope because each method determines the presence or absence of products that structurally, and functionally are distinct based upon differing amino acid structures and the binding specificities conferred to the products based upon these structures. Furthermore, the inventions as claimed do not encompass overlapping subject matter and there is nothing of record to show them to be obvious variants. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different sub-classification and their recognized divergent subject matter and because the literature search required for the Groups is not coextensive and it would place a serious burden on the Examiner to examine the Groups together, restriction for examination purposes as indicated is proper.

### ***Species Election***

Group I, claims 1-15 and 28:

Species A: detecting binding by fluorescence polarization

Species B: detecting binding by fluorescence lifetime

Species C: detecting binding by fluorescence resonance energy transfer

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Additionally, Applicants must elect a further species for claims 1-15 and 28:

Claim 1-15 and 28 detects protective antigen protein

Claim 1-15 and 28 detects fragments of protective antigen protein

Claim 1-15 and 28 detects lethal factor protein

Claim 1-15 and 28 detects fragments of lethal factor protein

Claim 1-15 and 28 detects edema factor protein

Claim 1-15 and 28 detects fragments of edema factor protein

Species A-C are independent or distinct because the different means of detection. The different detections represent distinctly different method steps and technology. The detection of specific agent would be by either a change in fluorescence polarization or a change in fluorescence life-time, depending on whether the technology incorporated was FP or FLT, respectively. If the method incorporated FRET, then detection is by sensitized fluorescence of the acceptor or by quenching of donor fluorescence or by fluorescence depolarization. The protein species are independent or distinct because each protein evidences a different amino acid structure/size, which results in a different biological/chemical function and a different biological/chemical effect, as well as reacts with a different antibody directed to the independent and distinct amino acid structure of the protein or protein fragment.

Group II, claims 16-27:

Species A: detecting binding by fluorescence polarization

Species B: detecting binding by fluorescence lifetime

Species C: detecting binding by fluorescence resonance energy transfer

Additionally, Applicants must elect a further species for these claims

- Claims 16-27 detect antibodies directed to protective antigen protein
- Claims 16-27 detect antibodies directed to fragments of protective antigen protein
- Claims 16-27 detect antibodies directed to lethal factor protein
- Claim 16-27 detect antibodies directed to fragments of lethal factor protein
- Claims 16-27 detect antibodies directed to edema factor protein
- Claim 16-27 detect antibodies directed to fragments of edema factor protein

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Species A-C are independent or distinct because the different means of detection. The different detections represent distinctly different method steps and technology. The detection of specific agent would be by either a change in fluorescence polarization or a change in fluorescence life-time, depending on whether the technology incorporated was FP or FLT, respectively. If the method incorporated FRET, then detection is by sensitized fluorescence of the acceptor or by quenching of donor fluorescence or by fluorescence depolarization. The species are independent or distinct because each protein evidences a different amino acid structure/size, which results in a different biological/chemical function and a different biological/chemical effect, as well as reacts with a different antibody directed to the independent and distinct amino acid structure of the protein or protein fragment.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no genetic claim is finally held to be allowable. Currently, no claims are genetic. Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are genetic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809:02(a).

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Correspondence regarding this application should be directed to Group Art Unit 1645. Papers related to this application may be submitted to Group 1600 by facsimile transmission. Papers should be faxed to Group 1600 via the PTO Fax Center located in Remsen. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Group 1645 Fax number is 571-273-8300 which is able to receive transmissions 24 hours/day, 7 days/week.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

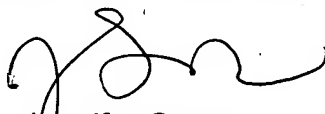
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Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer E. Graser whose telephone number is (571) 272-0858. The examiner can normally be reached on Monday-Thursday from 7:30 AM-6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Siew, can be reached on (571) 272-0787.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-0500.

  
Jennifer Graser  
Primary Examiner  
Art Unit 1645

6/21/07